

COURSE OVERVIEW:

Designing for Cisco Internetwork Solutions (DESGN) v3.0 is a 5-day training program where the student will learn how to design a strong and effective network as you prepare for the Cisco Certified Design Associate (CCDA) certification. Our enhancements to Cisco's authorized content, combined with case-study practice and our exclusive exam practice homework, will prepare you for the exam in only four days.

WHO SHOULD ATTEND:

- Network engineers and architects
- Systems administrators and network designers
- Anyone who wants CCDA certification
- IT managers wanting greater skill in network design

PREREQUISITES:

- CCNA certification is highly recommended
- Familiarity with basic internetworking technologies such as LAN, WAN, bridging, switching, protocols, and network management
- SWITCH - Implementing Cisco IP Switched Networks v2.0
- ROUTE - Implementing Cisco IP Routing v2.0

COURSE OBJECTIVES:

Upon completion of this course, you should be able to:

- How to identify designed requirements and characterize (baseline) the existing network
- Principles of network design and the guidelines for building a network design solution
- How the Enterprise Composite Network model simplifies the complexity of today's networks
- Design an Enterprise Campus in a hierarchical modular fashion using Cisco Borderless Networks and modular design
- Design Enterprise Campus and Enterprise Edge networks



- Select the appropriate Network Management Solution
- Design the WAN and branch office
- Design a network addressing plan for IPv4 and IPv6
- Select optimal routing protocols for the network
- Design a modern data center using Cisco and industry best practices
- Evaluate security solutions for the network
- Design Voice, Video, and Collaboration solutions
- Design a wireless solution using lightweight access points and the Cisco Wireless LAN Controller
- Understand the role of software defined networks in a design
- All topics on the CCDA certification exam
- Test-taking tips and techniques

COURSE OUTLINE:

Module 1: Applying a Methodology to Network Design

- PPDIOO
- Identifying Design Requirements
- Characterizing the Existing Network
- Using the Top-Down Approach
- Implementing the Design Methodology

Module 2: Network Design Objectives

- Designing the Network Hierarchy
- Modular Approach to Network Design
- Infrastructure Services
- Network Management Protocols and Features

Module 3: Campus and Data Center Design Considerations

- Campus Design Methodology
- Layer 2
- Layer 3
- High Availability

Module 4: Enterprise Network Design

- Traffic and Interconnection
- Security
- Edge Connectivity
- WAN Design
- Branch Design
- Data Center Design

Module 5: Internal Routing and Connecting to the Internet

- Routing Protocol Considerations
- Expanding EIGRP
- Expanding OSPF
- Introducing IS-IS
- Expanding IS-IS
- Using BGP

Module 6: Expanding the Existing Network

- QoS
- Wireless
- Integrating Collaboration

Module 7: IP Addressing Design

- Concepts
- Addressing Plan for IPv4
- IPv6 Addressing
- Supporting IP Addressing

Module 8: Introduction to Software-Defined Networking

- Need
- Definition
- Flavors

CASE STUDIES:

- **Case Study 1:** Ask the Right Questions
- **Case Study 2:** Design a Branch LAN
- **Case Study 3:** Branch Connections to Headquarters
- **Case Study 4:** Branch Routing
- **Case Study 5:** Design Support for Wireless and Collaboration
- **Case Study 6:** Designing the IPv4 Addressing Plan
- **Case Study 7:** Designing the IPv6 Addressing Plan